PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Applicant's or agent's file reference P040112P0	Date of mailing *(day/month/year)* **FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/JP2005/019748	27.10.2005	08.11.2004

International Patent Classification (IPC) or both national classification and IPC

Applicant

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I — Basis of the opinion
- ☐ Box No. II — Priority
- ☐ Box No. III — Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV — Lack of unity of invention
- ☒ Box No. V — Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI — Certain documents cited
- ☐ Box No. VII — Certain defects in the international application
- ☐ Box No. VIII — Certain observations on the international application

CORRECTED VERSION

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2005/019748

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed

   ☐ the translation of the international application into _____ , which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material

      ☐ a sequence listing

      ☐ table(s) related to the sequence listing

   b. format of material

      ☐ on paper

      ☐ in electronic form

   c. time of filing/furnishing

      ☐ contained in the international application as filed

      ☐ filed together with the international application in electronic form

      ☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	4, 5, 7, 8, 10, 12	YES
	Claims	1-3, 6, 9, 11, 13	NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations:

Document 1: JP 2002-353735 A (Sharp Corp.), 06 December 2002, Full text, all drawings (Family: none)

Document 2: JP 2004-505481 A (Samson Electronics Co., Ltd.), 19 February 2004, Full text, Fig. 1 (Family: none)

Document 3: JP 2002-124812 A (The Furukawa Electric Co., Ltd.), 26 April 2002, Full text, all drawings & US 2002/63658 A1 & EP 1198027 A1

Document 4: JP 6-216634 A (Toshiba Corp.), 05 August 1994, Full text, Figs. 3, 9, 11, 12 (Family: none)

Document 5: JP 8-307144 A (Mitsubishi Electric Corp.), 22 November 1996, Full text, Figs. 2, 3, 4, 5 (Family: none)

Document 6: JP 8-181530 A (Matsushita Electric Works, Ltd.), 12 July 1996, Full text, all drawings (Family: none)

Document 7: JP 2002-217638 A (Mitsubishi Electric Corp.), 02 August 2002, Full text, all drawings (Family: none)

Document 8: JP 3-10407 A (Nippondenso Co., Ltd.), 18 January 1991, Full text, all drawings (Family: none)

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

The inventions of claims 1 and 3 do not appear to possess novelty or involve an inventive step based on document 1.

Document 1 describes a wireless tag in which a semiconductor module is provided in a hollow section of a radiation conductor.

The invention of claim 2 does not appear to possess novelty or involve an inventive step based on document 1.

See Fig. 5 of document 1.

The invention of claim 6 does not appear to possess novelty or involve an inventive step based on document 1. The technology of embedding a chip into a concave section of a substrate is well-known, as described, e.g., in document 1.

The invention of claim 9 does not appear to possess novelty or involve an inventive step based on document 1 (Figs. 1, 2, 5). In addition, the technology of providing a cavity in a substrate with the object of improving directivity, performing frequency control and reducing the weight of an antenna is a well-known matter.

The invention of claim 11 does not appear to possess novelty or involve an inventive step based on document 1. Using a flexible material, such as described, e.g., in document 1, for a substrate for use in a wireless tag is a well-known matter.

The invention of claim 13 does not appear to possess novelty or involve an inventive step based on document 1. Disposing a wireless tag on a metal is well known as described, e.g., in document 1.

The inventions of claims 4 and 5 do not appear to involve an inventive step based on documents 1-3. Using a radiation conductor in the form of a meander or a spiral is well known. Furthermore, additionally providing a rectangular radiation conductor at the distal end of the meander or spiral radiation conductor with the object of expanding the band and reducing the size of the antenna is also well known, as described, for example, in documents 2 and 3.

Using a meander or spiral shape having a rectangular radiation conductor at the distal end as a shape of the radiation conductor of document 1 is not recognized to be particularly difficult.

The inventions of claims 7, 8, 10 do not appear to involve an inventive step based on documents 1-5. The technology of providing a step composed of a concave section in the central portion of a radiation conductor is well known as described, e.g., in documents 4 and 5.

The invention of claim 12 does not appear to involve an inventive step based on documents 1-8. Controlling the directivity characteristic or operation frequency by regulating the shape of a dielectric surrounding the antenna is well known, as described, e.g., in documents 6-8. The presence of a directivity characteristic also on the ground side of limited dimensions according to the radiation patch is a common technical knowledge. Therefore, disposing a dielectric also on the ground side to control the directivity characteristic or operation frequency is not recognized to be particularly difficult.